

USEPA Region V –Tradebe

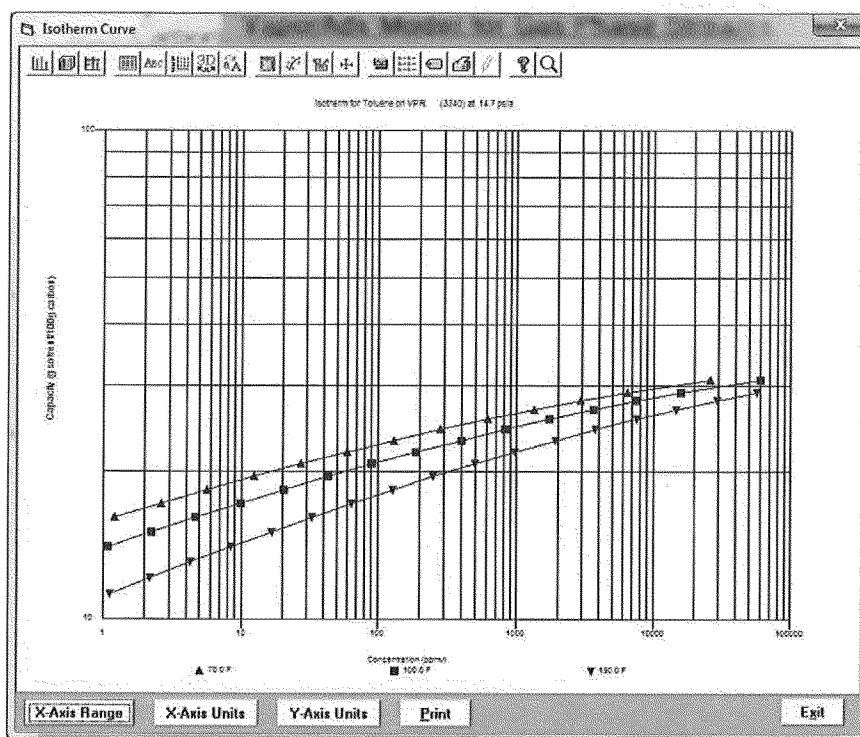
Response Document

For Item 7 ii

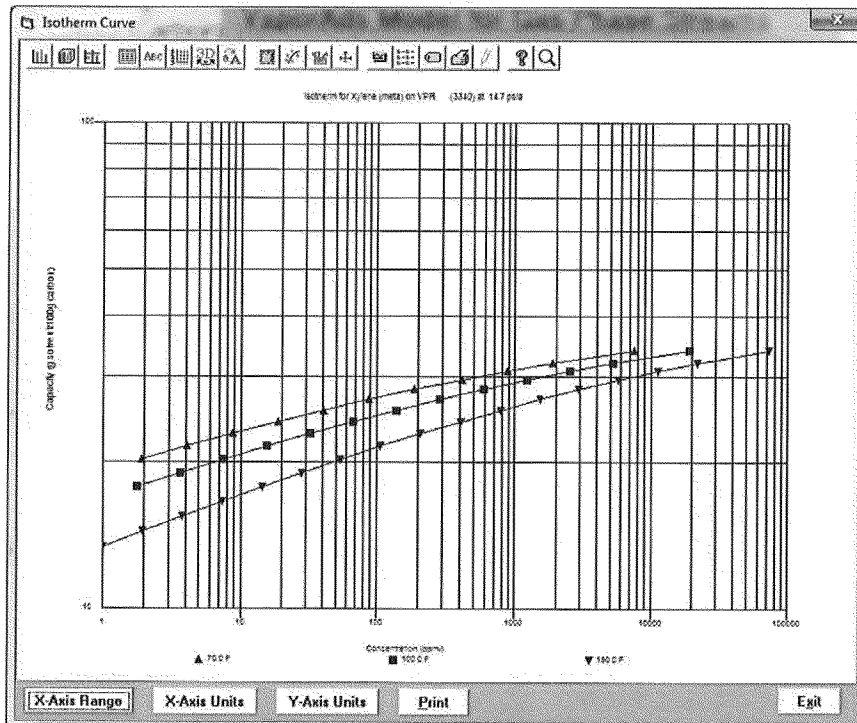
Isotherms

USEPA Response 7.ii ISOTHERMS

Toluene

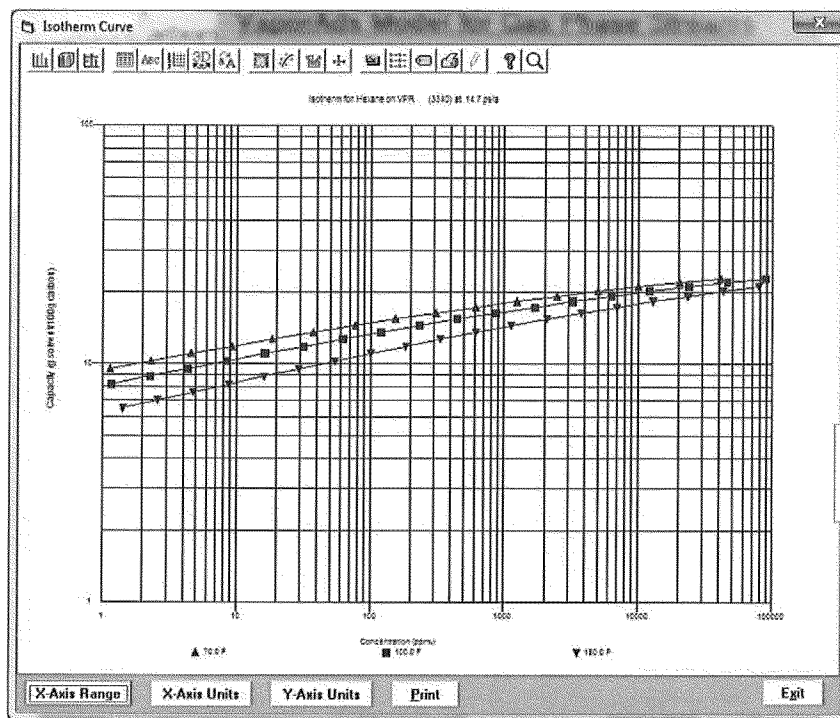


Xylene

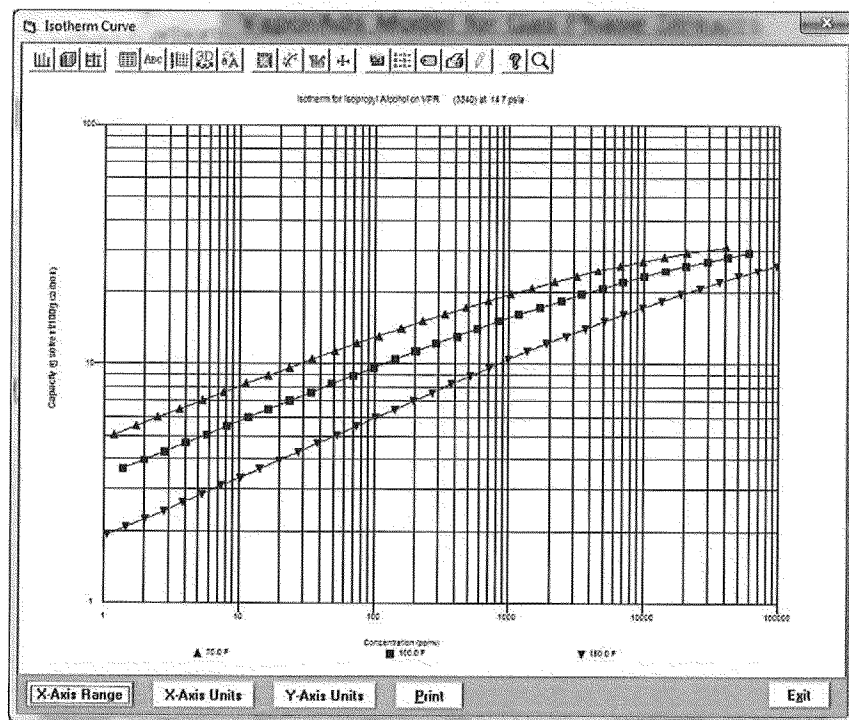


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Hexane



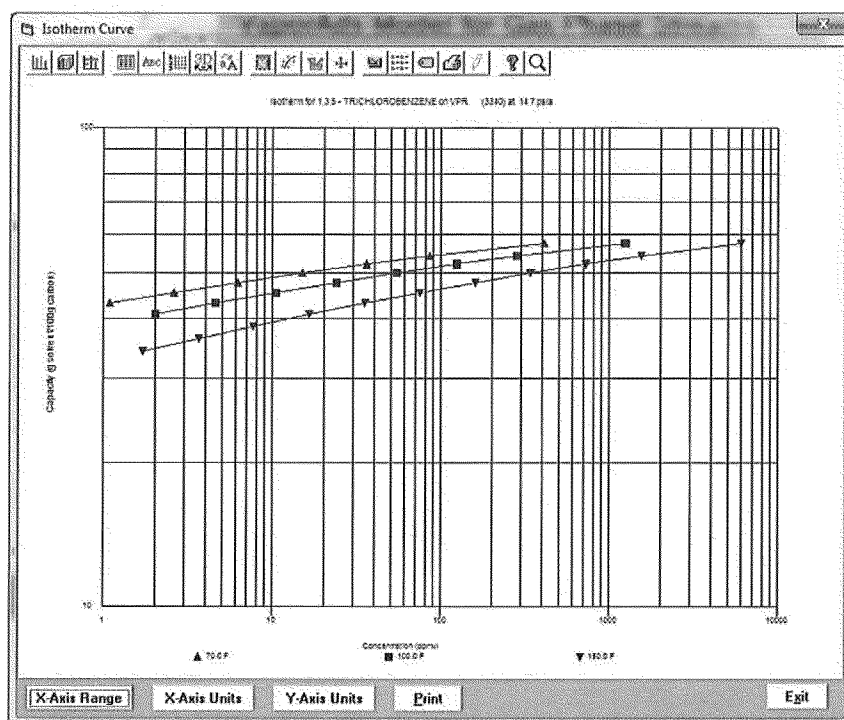
Isopropanol



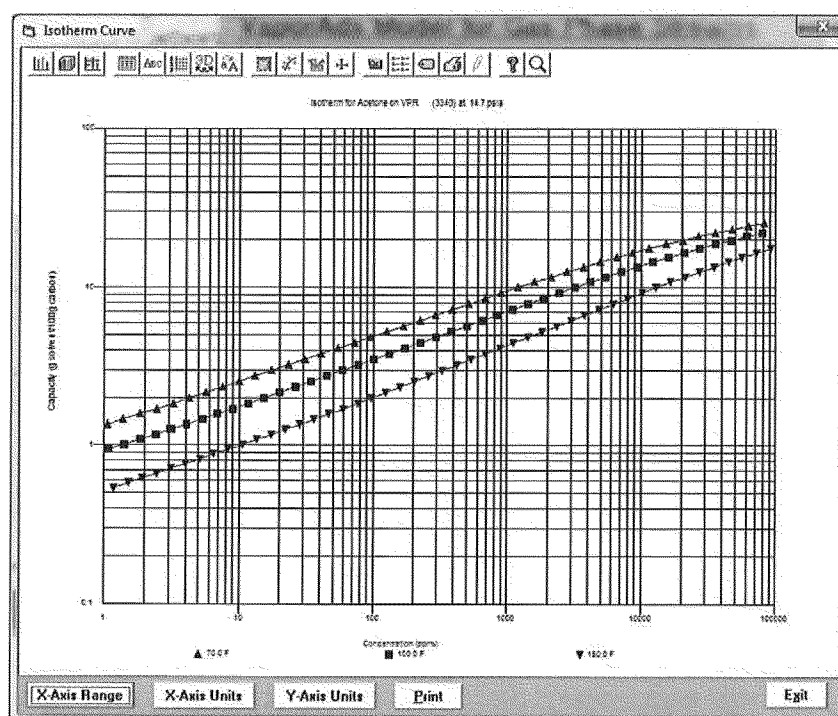
USEPA Response 7.ii ISOTHERMS

Propyl Benzenes don't have data should adsorb like Trimethyl Benzene.

Tri-methyl Benzene

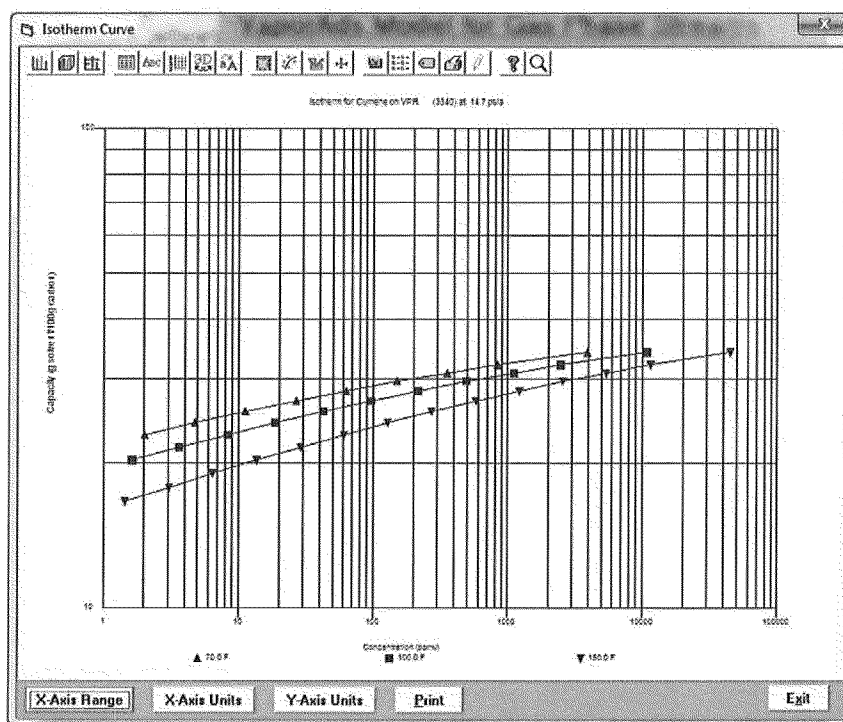


Acetone

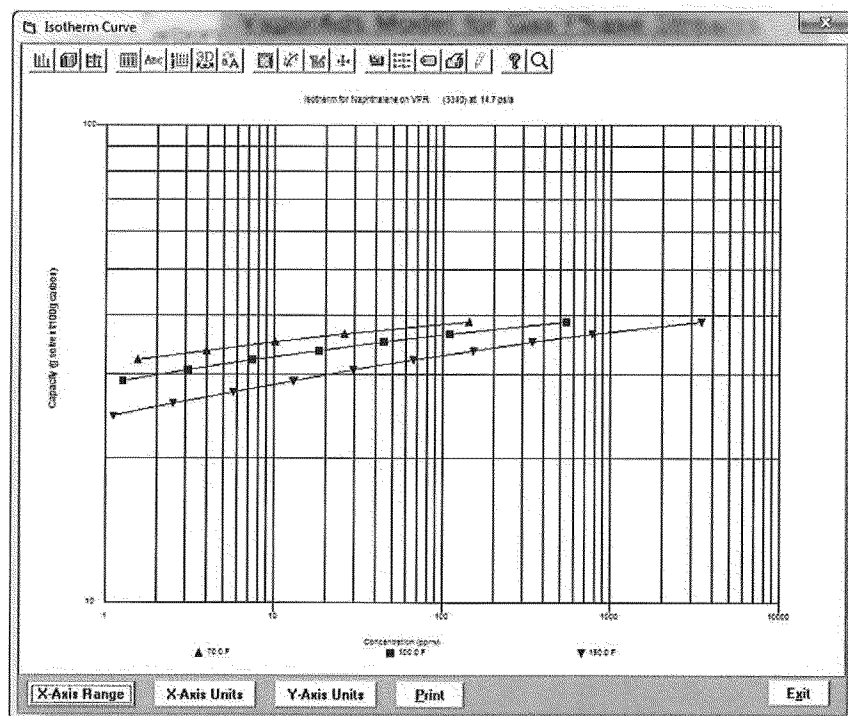


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Cumene

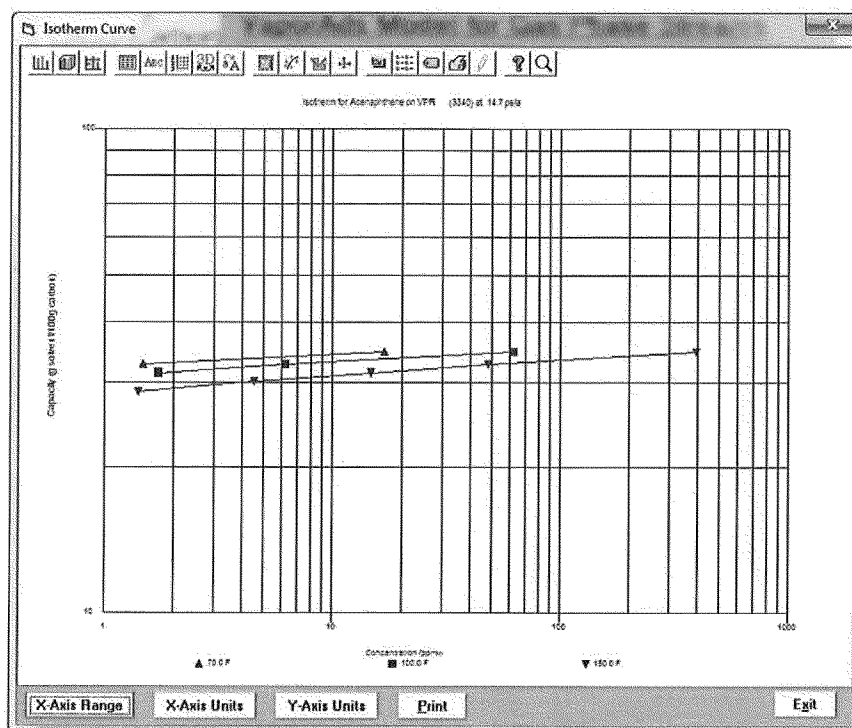


Naphthalene

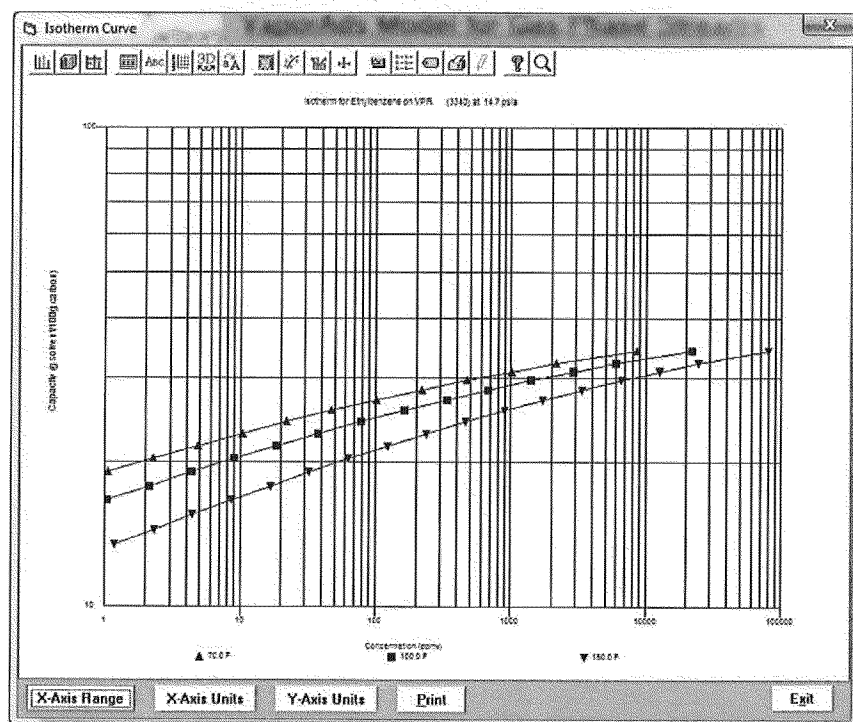


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Acenaphthalene

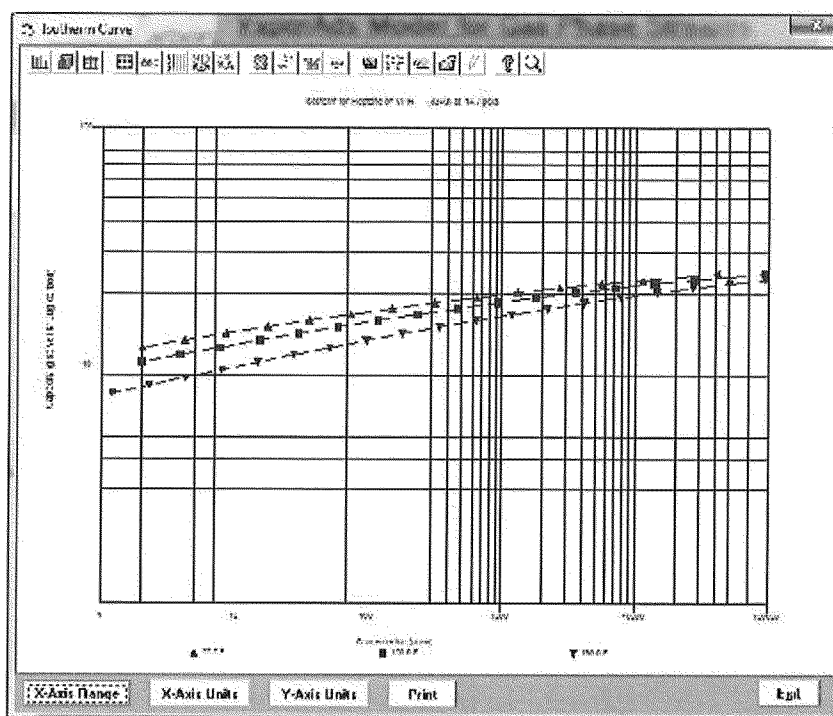


Ethyl Benzene

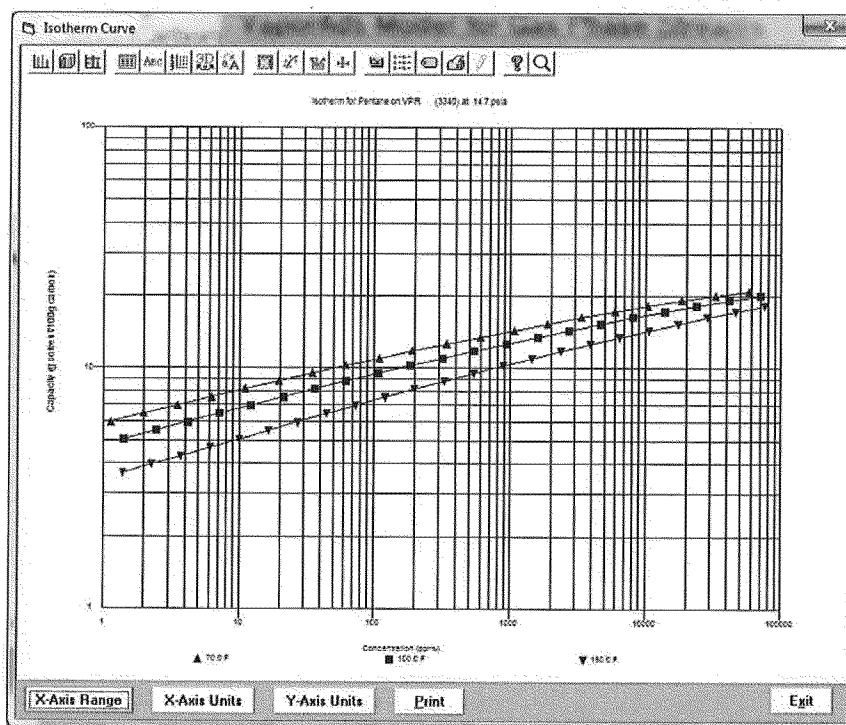


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Heptane

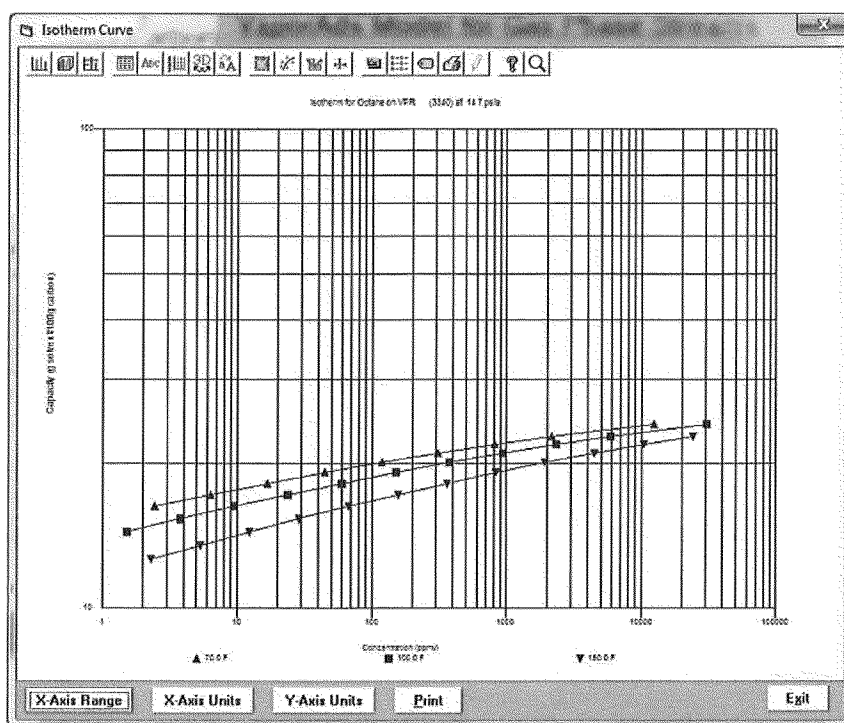


Pentane

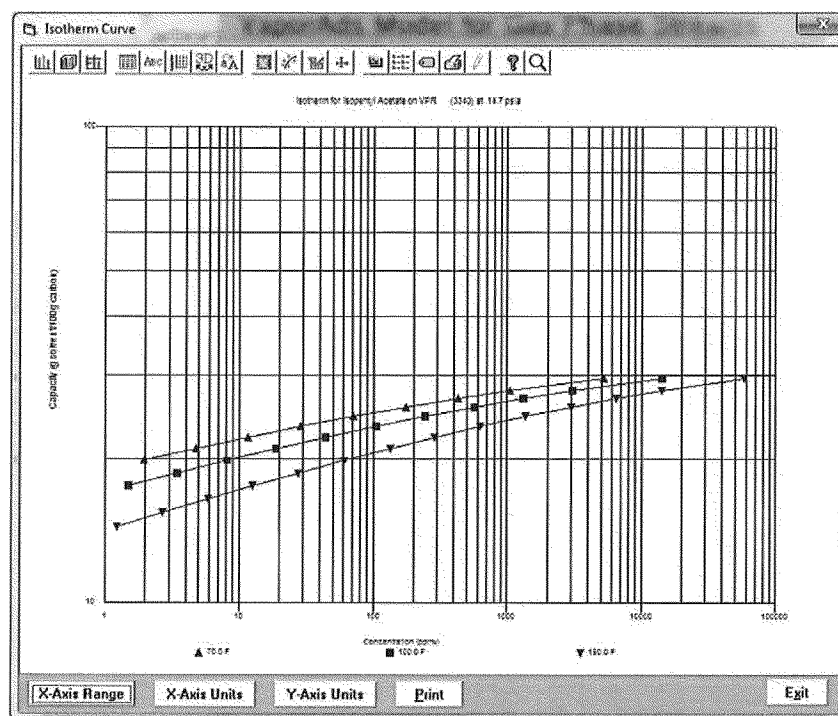


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Octane

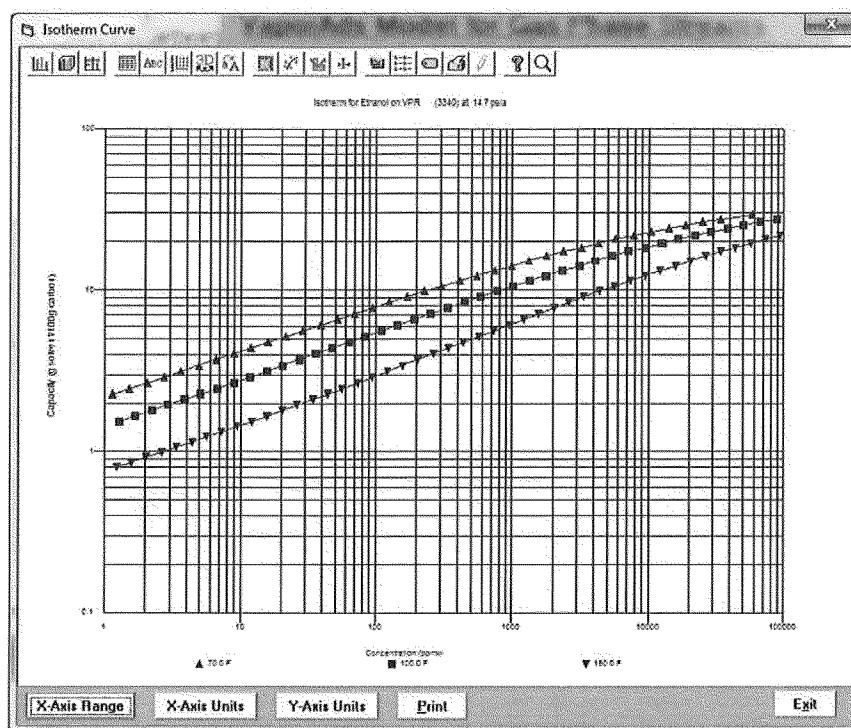


Isopentyl acetate for amyl alcohol

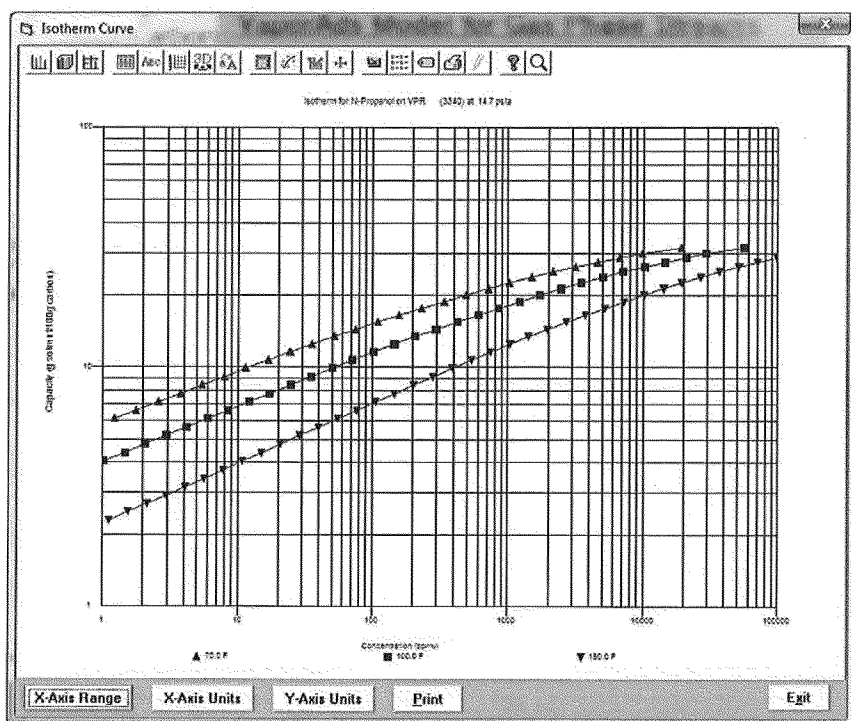


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Ethanol

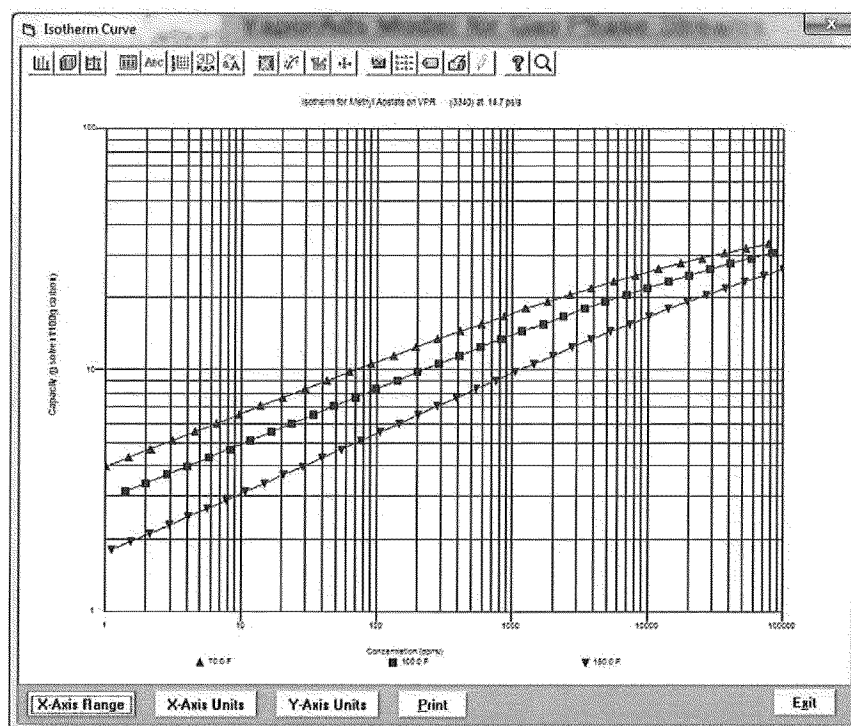


Propyl Alcohol

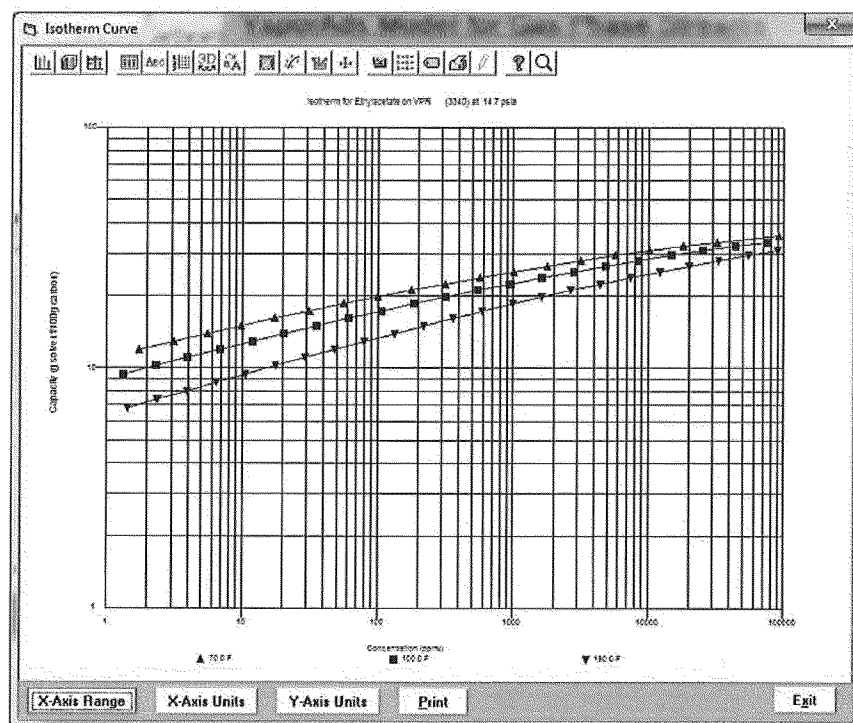


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Methyl Acetate

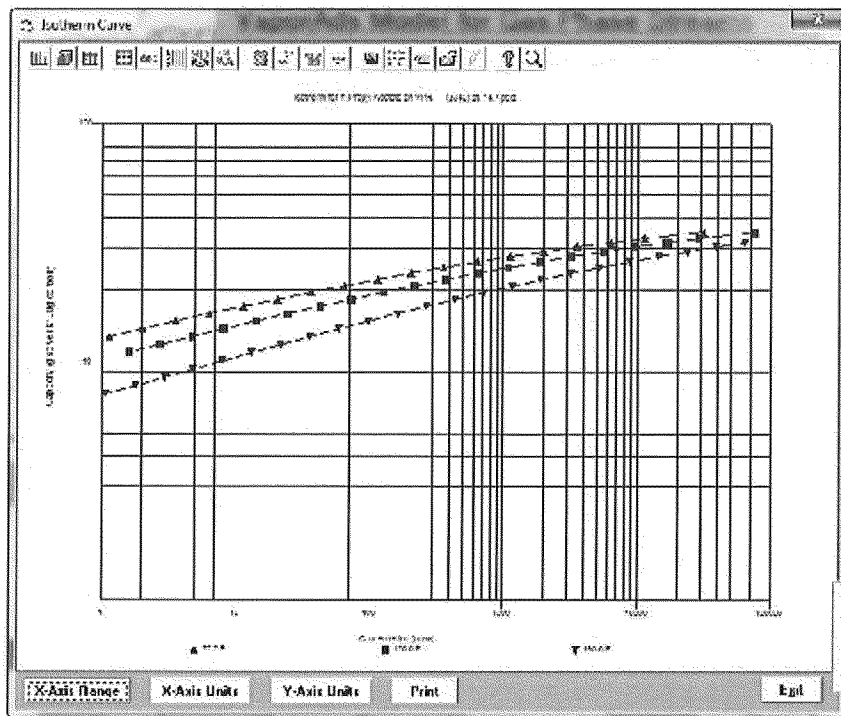


Ethyl Acetate

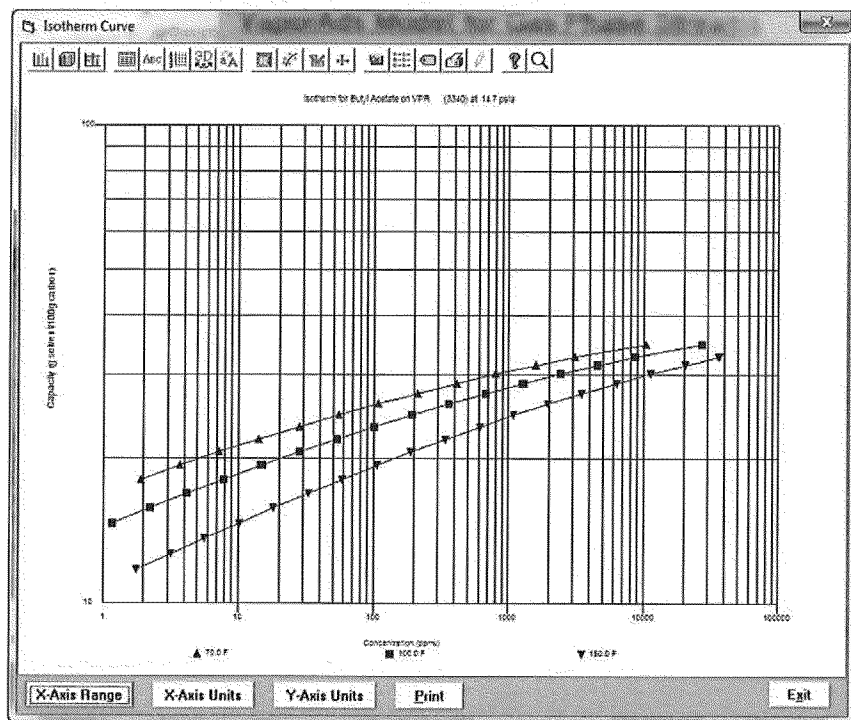


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Propyl Acetate

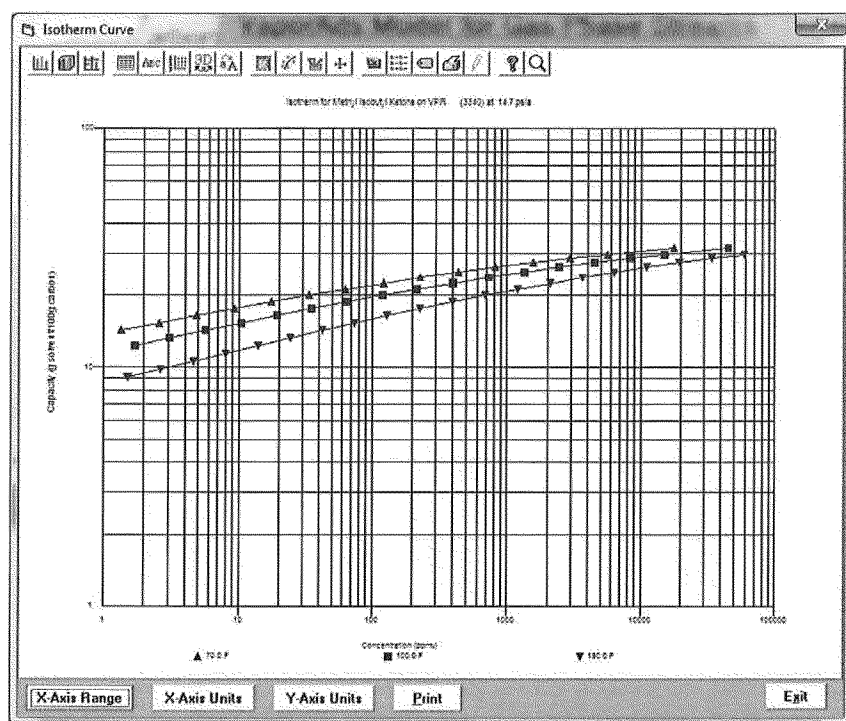


Butyl Acetate

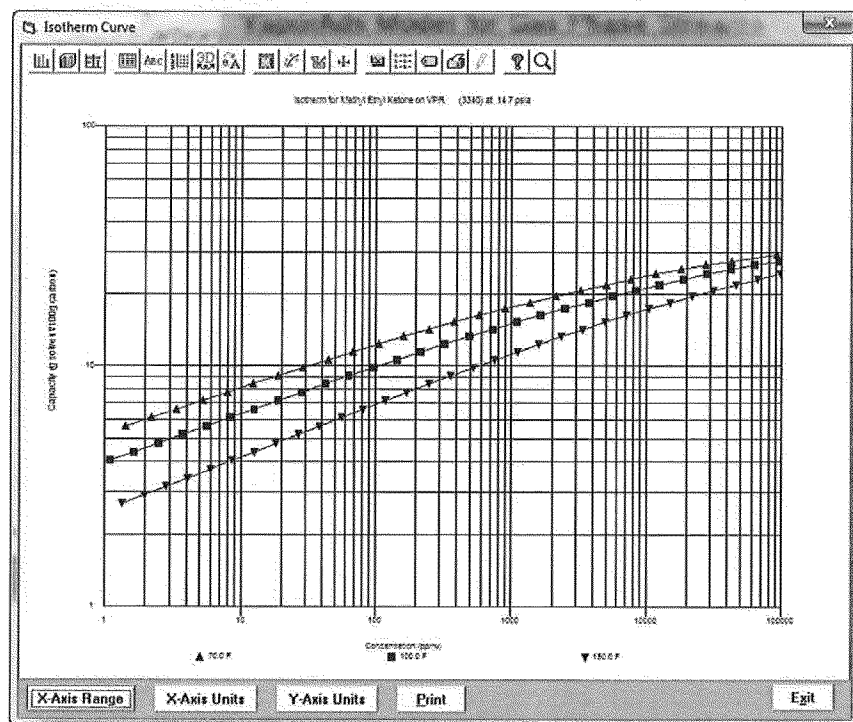


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MIBK

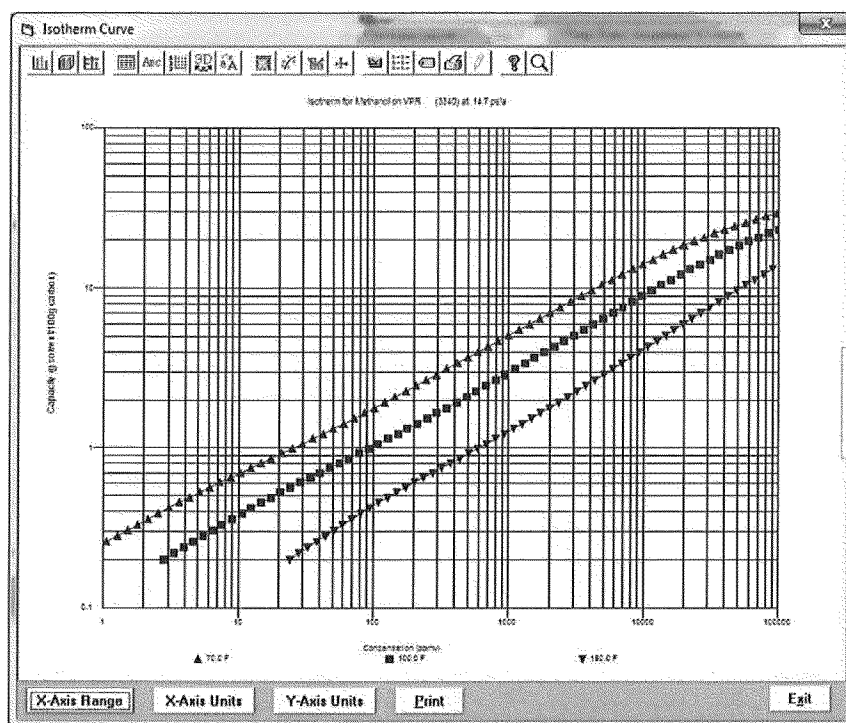


MEK

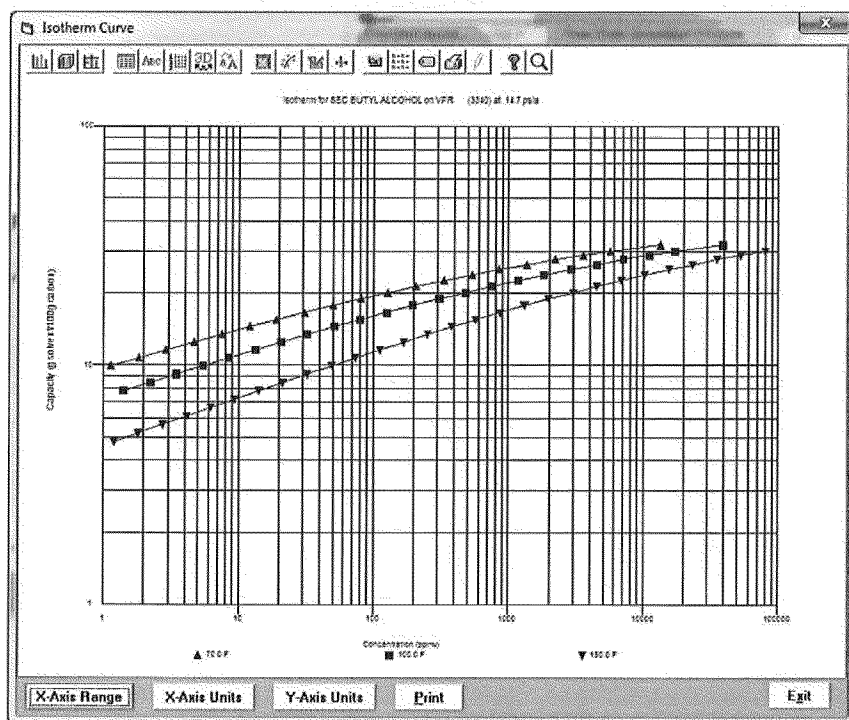


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Methanol

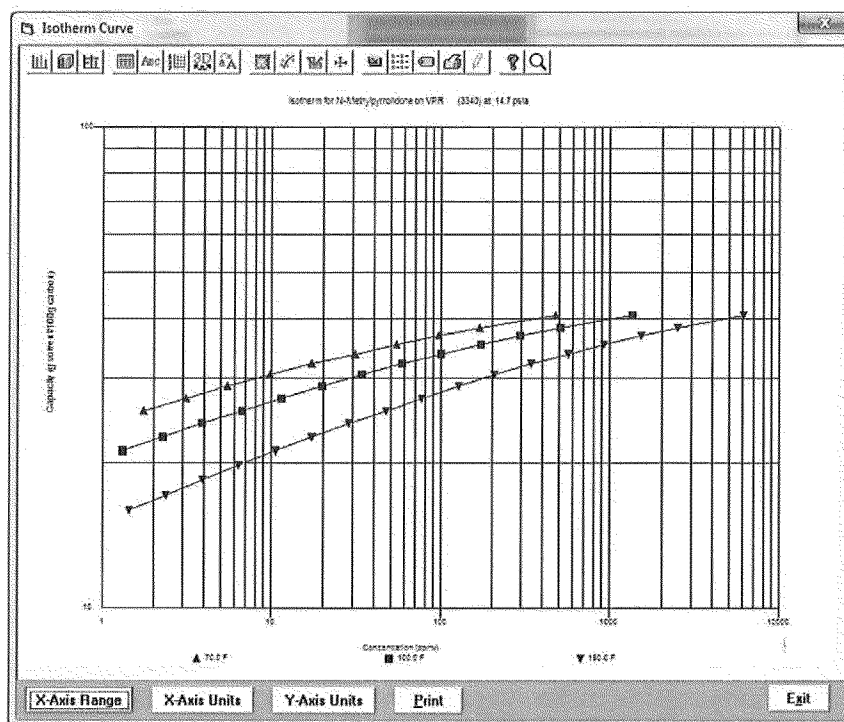


Butyl alcohol

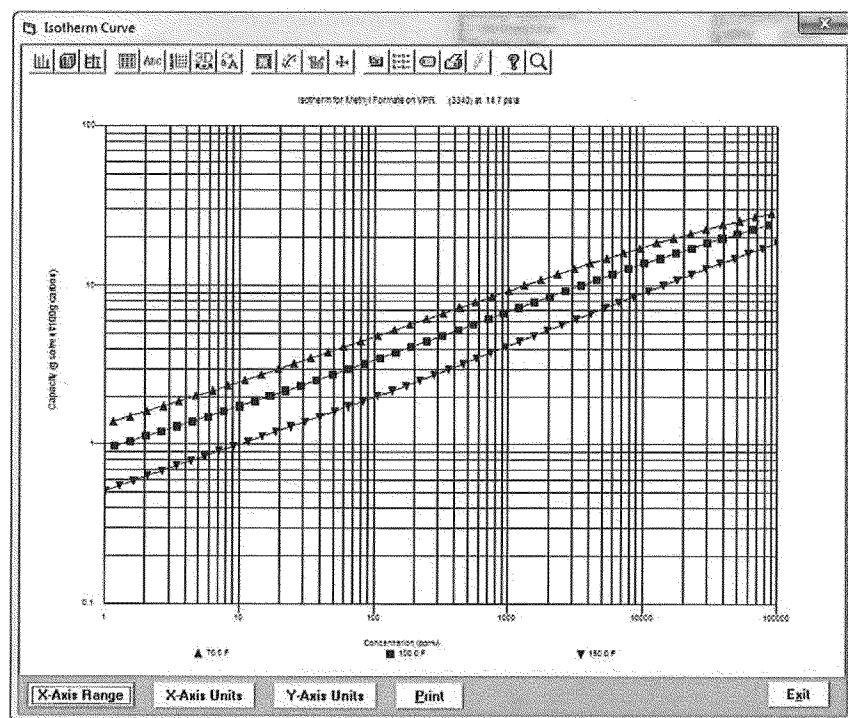


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n methylpyrrolldone

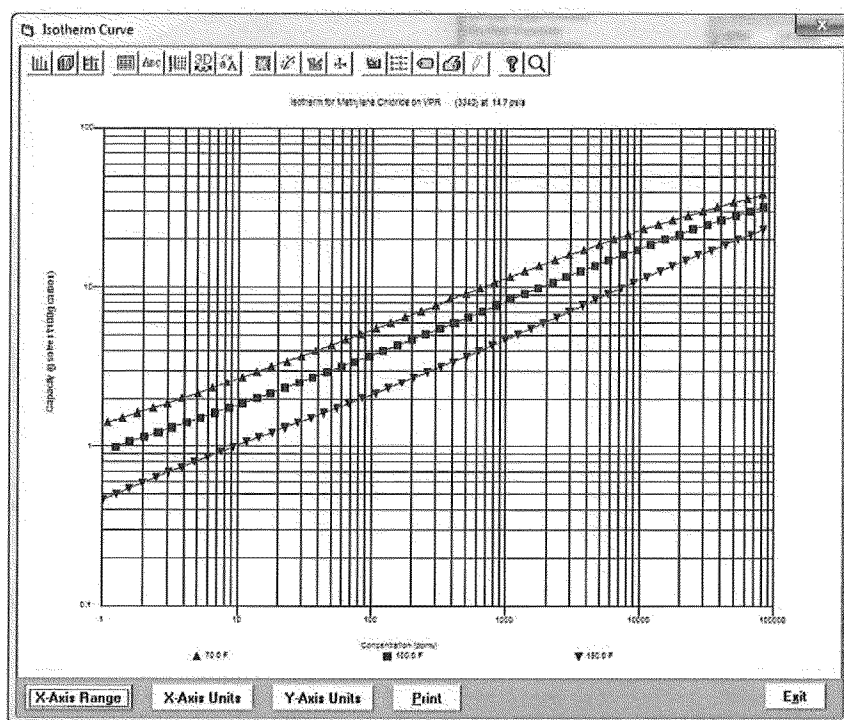


Methyl Formate

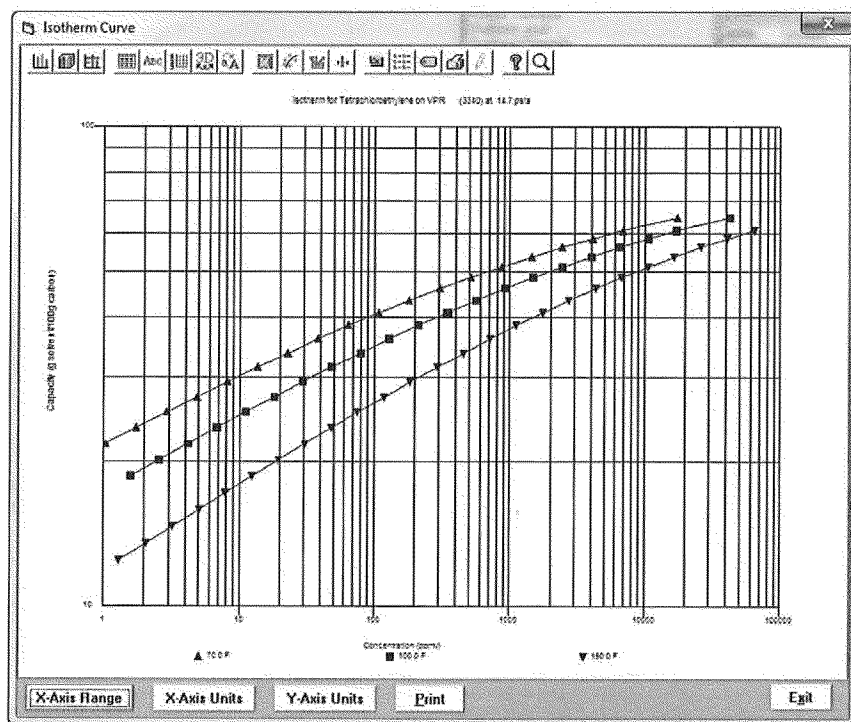


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Methylene Chloride

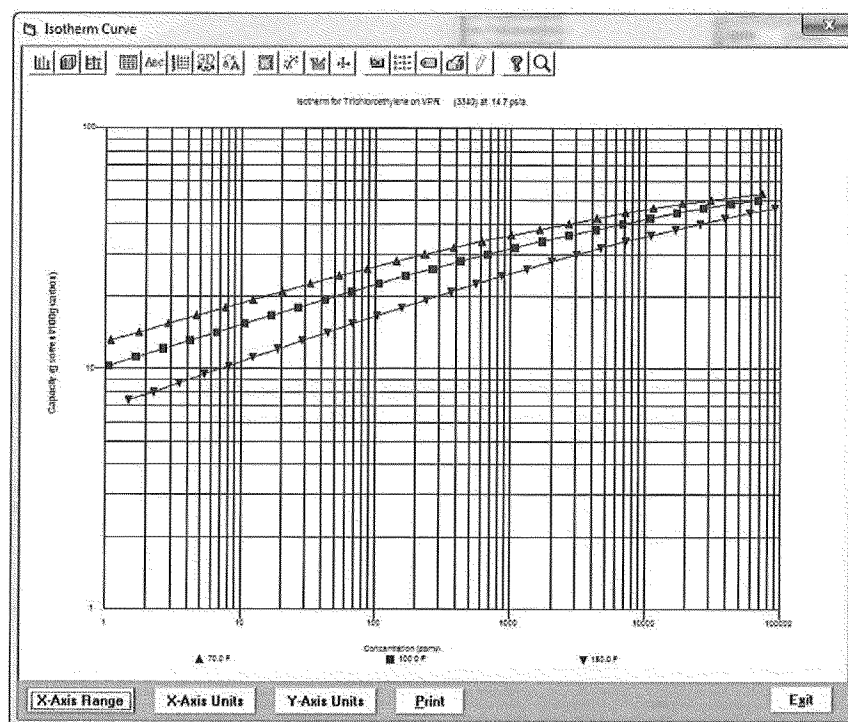


Tetrachloroethylene



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Trichloroethylene



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Flare Specifications

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7. Verify that all electrical wiring connections are tight.

IV. DESIGN BASIS AND PERFORMANCE SUMMARY

1. Gas Composition: Hydrocarbon Vapors and Air
2. Maximum Vapor Flow to Combustor: 1604 SCFM
Minimum Vapor Flow to Combustor: 80 SCFM
3. Ambient Temperatures: 10°F to 100°F
4. Maximum Hydrocarbon (measured as Propane) Concentration: 60 Vol%
Minimum Hydrocarbon (measured as Propane) Concentration: 6 Vol%
5. Available Pressure at Inlet of Vapor Combustion Unit is: 10" W.C. max.
6. Guaranteed Hydrocarbon Emissions Level: 10 Mg per liter of product loaded or 98% destruction efficiency.

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Response Document

For Item 24

Tradebe SDS Degreaser

Safety Data Sheet



Product: SDS Degreaser Blend

Effective Date: 08/14/15

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: SDS Degreaser Blend

Intended Use:

Manufacturer: Tradebe Treatment and Recycling, LLC
4343 Kennedy Ave.
East Chicago, Indiana 46312

Emergency Phone No. 800-388-7242

SDS Date of Preparation: 8/14/15

2. HAZARD(S) IDENTIFICATION

GHS Classification:

Physical	Health	Environment
Flammable Liquid Category 2	Acute Toxicity Category 4 (H302, H312, H332) Aspiration Toxicity Category 1 Carcinogen Category 1B Eye Damage Category 1 Mutagen Category 2 Reproductive Toxicity Category 1B Reproductive Toxicity Category 2 Skin Irritation Category 2 Specific Target Organ Toxicity – Repeat Exposure Category 2 Specific Target Organ Toxicity-Single Exposure Category 1 Specific Target Organ Toxicity – Single Exposure Category 3 (H335, H336)	Aquatic Acute Toxicity Category 2 Aquatic Chronic Toxicity Category 2

GHS Label Elements:



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Contains Xylene Isomers, Toluene, Hexanes, Isopropanol, Propyl Alcohol, Methanol, N-methyl Pyrrolidone, Trichloroethylene

Statement of Hazard

H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360Df May damage the unborn child.
Suspected of damaging fertility.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 Causes damage to optic nerve and central nervous system.
H373 May cause damage to kidneys, liver, nervous system, vision, and hearing through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground or bond container and receiving equipment.
P241 Use explosion-proof electrical, ventilating, and lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe mist, vapors, or spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection, and face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or shower.
P332 + P313 If skin irritation occurs: Get medical advice or attention.
P363 Wash contaminated clothing before reuse.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor if you feel unwell.
P307 + P311 IF exposed: Call a POISON CENTER or doctor.
P391 Collect spillage.
P370 + P378 In case of fire: Use carbon dioxide, foam or dry chemical for extinction.

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P403 + P235 + P233 Store in a well-ventilated place. Keep cool. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Component	CAS No.	Amount	GHS Classification
Xylene Isomers	95-47-6, 106-42-3	<60%	Flammable Liquid Category 3 (H226) Acute Toxicity Category 4 (H312, H332) Skin Irritation Category 2 (H315)
Toluene	108-88-3	<60%	Flammable Liquid Category 2 (H225) Reproductive Toxicity Category 2 (H361d) Aspiration Toxicity Category 1 (H304) Specific Target Organ Toxicity – Repeat Exposure Category 2 (H373) Skin Irritation Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Hexanes	Mixture	<40%	Flammable Liquid Category 2 (H225) Reproductive Toxicity Category 2 (H361f) Aspiration Toxicity Category 1 (H304) Specific Target Organ Toxicity – Repeat Exposure Category 2 (H373) Skin Irritation Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H336) Aquatic Chronic Toxicity Category 2 (H411)
Isopropanol	67-63-0	<30%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2A (H319) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Trimethylbenzenes	Mixtures	<25%	Flammable Liquid Category 3 (H226) Acute Toxicity Category 4 (H302,

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			H312) Skin Irritation Category 2 (H315) Eye Irritation Category 2 (H319)
Propylbenzenes	Mixtures	<20%	Flammable Liquid Category 3 (H226) Aspiration Toxicity Category 1 (H304) Specific Target Organ Toxicity – Single Exposure Category 3 (H335) Aquatic Chronic Toxicity Category 2 (H411)
Acetone	67-64-1	<20%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2 (H319) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Aromatic Hydrocarbons C9-C12	Mixture	<20%	Flammable Liquid Category 3 (H226) Aspiration Toxicity Category 1 (H304) Specific Target Organ Toxicity – Single Exposure Category 3 (H336) Aquatic Chronic Toxicity Category 2 (H411)
Ethylbenzene	100-41-4	<20%	Flammable Liquid Category 2 (H225) Carcinogen Category 2 (H351) Acute Toxicity Category 4 (H332) Aquatic Chronic Toxicity Category 3 (H412)
Heptanes	Mixture	<10%	Flammable Liquid Category 2 (H225) Aspiration Toxicity Category 1 (H304) Skin Irritation Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H336) Aquatic Acute Toxicity Category 1 (H400) Aquatic Chronic Toxicity Category 1 (H410)
Pentanes	Mixture	<10%	Flammable Liquid Category 1 (H224) Aspiration Toxicity Category 1 (H304) Specific Target Organ Toxicity – Single Exposure Category 3

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			(H336) Aquatic Chronic Toxicity Category 2 (H411)
Octanes	Mixture	<10%	Flammable Liquid Category 2 (H225) Aspiration Toxicity Category 1 (H304) Skin Irritation Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H336) Aquatic Acute Toxicity Category 1 (H400) Aquatic Chronic Toxicity Category 1 (H410)
Isoamyl Alcohol	125-51-3	<10%	Flammable Liquid Category 3 (H226) Acute Toxicity Category 4 (H332) Skin Irritation Category 2 (H315) Eye Irritation Category 2A (H319) Specific Target Organ Toxicity – Single Exposure Category 3 (H335)
Ethanol	64-17-5	<10%	Flammable Liquid Category 2 (H335) Eye Irritation Category 2 (H319)
Propyl Alcohol	71-23-8	<10%	Flammable Liquid Category 2 (H225) Eye Damage Category 1 (H318) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Methyl Acetate	79-20-9	<10%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2 (H319) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Ethyl Acetate	141-78-6	<10%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2A (H319) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Propyl Acetate	109-60-4	<10%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2 (H319) Specific Target Organ Toxicity – Single Exposure Category 3 (H336)
Butyl Acetate	123-86-4	<10%	Flammable Liquid Category 3

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			(H226) Specific Target Organ Toxicity -- Single Exposure Category 3 (H336)
Butyl Cellosolve Acetate	112-07-2	<10%	Acute Toxicity Category 4 (H312, H332)
Methyl Isobutyl Ketone	108-10-1	1-10%	Flammable Liquid Category 2 (H225) Acute Toxicity Category 4 (H332) Carcinogen Category 2 (H351) Eye Irritation Category 2 (H319) Specific Target Organ Toxicity -- Single Exposure Category 3 (H335)
Methyl Ethyl Ketone	78-93-3	1-10%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2 (H319) Specific Target Organ Toxicity -- Single Exposure Category 3 (H336)
Methanol	67-56-1	1-5%	Flammable Liquid Category 2 (H225) Acute Toxicity Category 3 (H301, H311, H331) Specific Target Organ Toxicity -- Single Exposure Category 1 (H370)
Butyl Alcohol	71-36-3	1-5%	Flammable Liquid Category 3 (H226) Acute Toxicity Category 4 (H302) Skin Irritation Category 2 (H315) Eye Damage Category 1 (H318) Specific Target Organ Toxicity -- Single Exposure Category 3 (H336, H335)
Butyl Cellosolve	111-76-2	<5%	Acute Toxicity Category 4 (H302, H312, H332) Eye Irritation Category 2 (H319) Skin Irritation Category 2 (H315)
Dimethyl carbonate	616-38-6	<5%	Flammable Liquid Category 2 (H225)
Methyl Formate	107-31-3	<5%	Flammable Liquid Category 1 (H224) Acute Toxicity Category 4 (H302, H332) Eye Irritation Category 2A (H319) Specific Target Organ Toxicity -- Single Exposure Category 3 (H335)
N-methyl Pyrrolidone	872-50-4	<5%	Skin Irritation Category 2 (H315) Eye Irritation Category 2 (H319)

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			Reproductive Toxicity Category 1B (H360D) Specific Target Organ Toxicity – Single Exposure Category 3 (H335)
Ethyl Methyl Carbonate	623-53-0	<5%	Flammable Liquid Category 2 (H225)
Methylene chloride	75-09-2	0-1%	Carcinogen Category 2 (H351)
Perchloroethylene	127-18-4	0-1%	Carcinogen Category 2 (H351) Aquatic Chronic Toxicity Category 2 (H411)
Trichloroethylene	79-01-6	0-1%	Carcinogen Category 1B (H350) Mutagen Category 2 (H341) Eye Irritation Category 2 (H319) Skin Irritation Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H336) Aquatic Chronic Toxicity Category 3 (H412)

4. FIRST- AID MEASURES

Eye: First check victim for contact lenses and remove if present. Flush victim's eyes with large quantities of water for at least 30 minutes, holding the eyelids apart. Get immediate medical attention.

Skin: Remove contaminated clothing. Wash skin thoroughly with soap and water for at least 15 minutes. If irritation or symptoms develop, get medical attention. Launder clothing before re-use. (Discard contaminated shoes).

Ingestion: Aspiration Hazard. DO NOT INDUCE VOMITING. If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Get immediate medical attention.

Inhalation: Immediately remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed: May cause severe eye irritation and burns with possible eye damage. May cause moderate skin irritation. Aspiration hazard: material may enter the lungs if swallowed and cause lung injury. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, drowsiness, nausea and unconsciousness. Prolonged and/or repeated overexposure may cause central nervous system and optic nerve damage. This product may cause reproductive harm. This product may cause irreversible effects. This product contains Methyl Isobutyl Ketone, Ethylbenzene, and Trichloroethylene which are suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Indication of Immediate Medical Attention and Special Treatment Needed: Immediate medical attention is required for eye contact, ingestion and inhalation.

5. FIRE -FIGHTING MEASURES

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Suitable (and Unsuitable) Extinguishing Media: Use carbon dioxide, foam or dry chemical. Water may be ineffective but can be used to cool exposed containers and structures and disperse flammable vapors.

Specific Hazards Arising From the Chemical: This product is highly flammable and forms explosive mixtures with air. Vapors are heavier than air and will travel along surfaces to remote ignition sources and flash back. Closed containers may explode if exposed to extreme heat. Decomposition of the product may release oxides of carbon.

Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate spill area and keep unprotected personnel away. Remove all sources of ignition. Do not breath vapors or mists. Ventilate area with explosion proof equipment. Avoid contact with eyes, skin and clothing. Wear appropriate protective clothing as described in Section 8.

Methods and Materials for Containment and Cleaning Up:

Contain and collect using inert absorbent materials and place in appropriate containers for disposal. Use non-sparking tools and equipment. If spill has not ignited, use water spray to disperse the vapors and protect personnel attempting to stop leak. Do not flush to sewer! Report releases as required by local, state and federal authorities.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Prevent contact with eyes, skin and clothing. Wear protective clothing and equipment as described in Section 8. Do not breath vapors or mists. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep product away from heat, sparks, flames and all other sources of ignition. Do not permit smoking in use or storage areas. Use with non-sparking tools and explosion proof equipment. Electrically bond and ground containers for transfer.

Do not cut, drill, grind or weld on or near containers, even empty containers. Empty containers retain product residues which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including Any Incompatibilities: Store in accordance with regulations for the storage of flammable liquids. Store in a dry, well-ventilated area away from heat, direct sunlight and all sources of ignition. Store away from oxidizers and other incompatible materials.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Guidelines:

Constituent	OSHA		ACGIH	
	TWA	STEL	TWA	STEL
Xylene Isomers	100 ppm	N/A	100 ppm	150 ppm
Toluene	200 ppm	300 ppm Ceiling 500 ppm 10-min	20 ppm	N/A

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		Peak		
Hexanes	500 ppm	N/A	50 ppm (Skin)	N/A
Isopropanol	400 ppm	N/A	200 ppm	400 ppm
Trimethylbenzenes	N/A	N/A	25 ppm	N/A
Propylbenzenes	N/A	N/A	N/A	N/A
Acetone	1000 ppm	N/A	500 ppm	750 ppm
Aromatic Hydrocarbons C9-C12	N/A	N/A	N/A	N/A
Ethylbenzene	100 ppm	N/A	20 ppm	125 ppm
Heptanes	400 ppm	500 ppm	500 ppm	N/A
Pentanes	1000 ppm	N/A	1000 ppm	N/A
Octanes	500 PPM	N/A	300 ppm	N/A
Isoamyl Alcohol	100 ppm	N/A	100 ppm	125 ppm
Ethanol	1000 ppm	N/A	N/A	1000 ppm
Propyl Alcohol	200 ppm	N/A	100 ppm	N/A
Methyl Acetate	200 ppm	N/A	200 ppm	250 ppm
Ethyl Acetate	400 ppm	N/A	400 ppm	N/A
Propyl Acetate	200 ppm	N/A	200 ppm	250 ppm
Butyl Acetate	150 ppm	N/A	150 ppm	200 pm
Butyl Cellosolve Acetate	N/A	N/A	20 ppm	N/A
Methyl Isobutyl Ketone	100 ppm	N/A	20 ppm	75 ppm
Methyl Ethyl Ketone	200 ppm	N/A	200 ppm	300 ppm
Methanol	200 ppm	N/A	200 ppm (Skin)	250 ppm (Skin)
Butyl Alcohol	100 ppm	N/A	20 ppm	N/A
Butyl Cellosolve	50 ppm	N/A	20 ppm	N/A
Dimethyl carbonate	N/A	N/A	N/A	N/A
Methyl Formate	100 ppm	N/A	100 ppm	150 ppm
N-methyl pyrrolidone	N/A	N/A	N/A	N/A
Ethyl Methyl Carbonate	N/A	N/A	N/A	N/A
Methylene chloride	25 ppm	125 ppm	50 ppm	N/A
Perchloroethylene	100 ppm	200 ppm Ceiling 300 ppm 5-min Peak	25 ppm	100 ppm
Trichloroethylene	100 ppm	200 ppm Ceiling 300 ppm 5-min Peak	10 ppm	25 ppm

Appropriate Engineering Controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits. Use explosion proof equipment where required.

Respiratory Protection: If the exposure limits are exceeded a NIOSH approved organic vapor respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin Protection: Wear impervious gloves. Wear impervious protective clothing, boots, lab coat, apron or coveralls, as appropriate. Consult protective clothing and glove manufacturer data for more information.

Eye Protection: Chemical safety goggles and a full face shield should be worn where splashing is possible.

Other: A safety shower and eye wash should be available in the immediate work area.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid	Vapor Pressure: Not available
Odor: Solvent odor	Vapor Density: 1.4
Odor Threshold: Not available	Relative Density: Not available
pH: Not applicable	Solubility(ies): Partially soluble in water
Melting/Freezing Point: Not available	Partition coefficient (n-octanol/water): Not determined
Initial Boiling Point/Range: 110.6°C (231.1°F) (Toluene)	Auto-ignition Temperature: Not available
Flashpoint: 4.4-7.2°C (40-45°F)	Decomposition Temperature: Not available
Evaporation Rate: Not available	Viscosity: Not available
Flammability (solid, gas): Not applicable	VOC Content: Not available
Flammable Limits: LEL: 1.0-1.7% UEL: 6-36%	

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Will not occur.

Conditions to Avoid: Keep away from heat and all sources of ignition.

Incompatible Materials: Avoid strong acids, strong oxidizing agents, and strong caustics.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Eye: Causes severe irritation with redness, tearing, and stinging, blurred vision, possible corneal burns and eye damage.

Skin: Causes irritation, drying, defatting of the skin and dermatitis. Some constituents may be absorbed through the skin causing systemic effects.

Ingestion: Ingestion may cause mucous membrane and gastrointestinal irritation, abdominal spasms, sore throat, vomiting, diarrhea, visual disturbances and nervous system depression with symptoms of headache, dizziness, nausea, narcosis and unconsciousness. Methanol is very slowly eliminated from the body. Ingestion of methanol may cause nervous system effects, blurred vision, blindness, coma and death. Aspiration into the lungs during ingestion or vomiting may cause serious lung damage which may be fatal.

Inhalation: Inhalation of vapors may cause mucous membrane and respiratory irritation and central nervous system depression with symptoms of headache, dizziness, giddiness, intoxication, nausea, vomiting, disorientation, stupor and unconscious. Peculiar skin sensations (e.g. pins and needles) or numbness may occur. Severe overexposures may cause respiration depression, blurred vision, blindness, liver and kidney damage, coma and death. Chronic exposures may cause central nervous system effects.

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Chronic: Prolonged occupational overexposure may cause effects on vision, hearing and damage to the nervous system, blood system, liver and kidneys. Prolonged intentional abuse may damage many organ systems including central and peripheral nervous systems, vision, hearing, liver, kidneys, lymphoid system, heart and blood. Such abuse has been associated with brain damage characterized by disturbances in gait, personality changes and loss of memory. Toluene, methanol, and acetone have been found to cause adverse reproductive effects and/or birth defects in studies with laboratory animals. Product may damage the unborn child. Product is suspected of damaging fertility.

Sensitization: This product is not expected to cause sensitization.

Carcinogenicity: Trichloroethylene is classified as Carcinogenic to Humans (1) by IARC, Reasonably Anticipated to Be a Human Carcinogen by NTP, and Suspected Human Carcinogen (A2) by ACGIH. Perchloroethylene are classified as Possibly Carcinogenic to Humans (2B) by IARC and as Reasonably Anticipated to Be a Human Carcinogen by NTP. Methylene chloride is classified as Possibly Carcinogenic to Humans (2B) by IARC, Reasonably Anticipated to Be a Human Carcinogen by NTP and a Carcinogen by OSHA. Ethylbenzene and Methyl Isobutyl Ketone are classified as Possibly Carcinogenic to Humans (2B) by IARC. None of the other components is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH or OSHA.

Mutagenicity: Toluene, acetone, methanol, and trichloroethylene have tested positive for mutagenicity in some test systems.

Medical Conditions Aggravated by Exposure: Employees with pre-existing skin, respiratory, liver and kidney disease may be at increased risk from exposure.

Acute Toxicity Values:

Xylene: Oral Rat LD50 4300 mg/kg; Inhalation Rat LC50 5000 ppm/4 hr; Skin Rabbit LD50 >1700 mg/kg

Toluene: Oral Rat LD50 5000 mg/kg; Inhalation Rat LC50 8000 ppm/4 hr; Skin Rabbit LD50 12,214 mg/kg

n-Hexane: Oral Rat LD50 28710 mg/kg

Isopropanol: Oral Rat LD50- 5045 mg/kg; Inhalation Rat LC50- 16000 ppm/10 hr; Skin Rabbit LD50- 12800 mg/kg

Trimethylbenzene: Oral Rat LD50 >6000 mg/kg

Acetone: Oral Rat LD50 - 5,800 mg/kg; Inhalation Rat LC50 76 mg/L/4 hr, Skin rabbit LD50 >15,700 mg/kg

Ethylbenzene: Oral Rat LD50 3500 mg/kg; Skin Rabbit LD50 17.8 mL/kg

Heptane: Inhalation Rat LC50 103 g/m³/4 hr

Pentane: Oral Rat LD50 >2000 mg/kg

Octane: Oral Rat LD50 >2000 mg/kg; Inhalation Rat LC50 >24.88 mg/L/4hr

Ethanol: Oral Rat LD50 10470 mg/kg; Inhalation Rat LC50 117-125 mg/L/4hr

Propyl Alcohol: Oral Rat LD50 5400 mg/kg; Inhalation Rat LC50 >33.8 mg/L/4hr (no mortality);

Dermal rabbit LD50 4032 mg/kg

Methyl Acetate: Oral Rat LD50 6482 mg/kg; Inhalation Rat LC50 .49.2 mg/L/4hr; Skin Rabbit LD50 >2000 mg/kg

Ethyl Acetate: Oral Rat LD50 5620 mg/kg; Dermal Rabbit LD50 >20 g/kg

Propyl Acetate: Oral Rat LD50 8700 mg/kg; Inhalation Rat LC50 32 mg/L/4hr; Skin Rabbit LD50 >17800 mg/kg

Butyl Acetate: Oral Rat LD50 12.2 mL/kg; Inhalation Rat LC50 >21.0 mg/L/4hr; Skin Rabbit LD50 >16 mL/kg

Butyl Cellosolve Acetate: Oral Rat LD50 6500 mg/kg; Skin Rabbit LD50 14500 mg/kg

Methyl Isobutyl Ketone: Oral Rat LD50 2080 mg/kg; Skin Rabbit LD50 >20 mL/kg

Methyl Ethyl Ketone: Oral Rat LD50 2737 mg/kg; Inhalation Rat LC50 23500 mg/kg/8 hr; Skin Rabbit LD50 6480 mg/kg

Methanol: Oral Rat LD50 5628 mg/kg; Inhalation Rat LC50 64,000 ppm/4 hr; Skin Rabbit LD50 15,800 mg/kg

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Butyl Alcohol: Oral Rat LD50 790 mg/kg; Inhalation Rat LC50 8000 ppm/4 hr; Skin Rabbit LD50 3400 mg/kg
 Butyl Cellosolve: Oral Rat LD50 470 mg/kg; Inhalation Rat LC50 450 ppm/4 hr; Skin Rabbit LD50 220 mg/kg
 Dimethyl carbonate: Oral Rat LD50 13 g/kg; Skin Rabbit LD50 >5 g/kg
 Methyl formate: Oral Rat LD50 1500 mg/kg; Inhalation Rat LC50 >5.2 mg/L/4hr; Skin Rabbit LD50 >4000 mg/kg
 N-methyl pyrrolidone: Oral Rat LD50 4150 mg/kg; Inhalation Rat LC50 >5.1 mg/L/4hr; Skin Rabbit LD50 >5000 mg/kg
 Ethyl Methyl Carbonate: Oral Rat LD50 >5000 mg/kg; Inhalation Rat LC50 >17.6 mg/L/4hr
 Methylene Chloride: Oral Rat LD50 1600 mg/kg; Inhalation Rat LC50 52 g/m³;
 Perchloroethylene: Oral Rat LD50 2629 mg/kg; Inhalation Rat LC50 34200 mg/m³/8 hr; Skin Rabbit >3228 mg/kg
 Trichloroethylene: Oral Rat LD50 4920 mg/kg; Skin Rabbit LD50 >20 g/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

This product is classified as toxic to the aquatic environment with long-term effects. Avoid all releases to the environment.

Toluene: 96 hr LC50 Pimephales promelas (fathead minnows) 34.27 mg/L, 48 hr LC50 daphnia magna 313 mg/L; Log Octanol-water partition coefficient <3.0; BCF = 13.2 (eels)
 n-Hexane: Log Octanol-water partition coefficient >3.0; BCF <100
 Isopropanol: 96hr LC50 Pimephales promelas (fathead minnows)-10000 mg/L
 Trimethylbenzene: 96 hr LC50 Pimephales promelas (fathead minnows) 7.72 mg/L; 48 hr LC50 daphnia magna 3.6 mg/L
 Acetone: 96 hr LC50 Oncorhynchus mykiss (Rainbow trout) 5,540 mg/L
 Heptane: Log Octanol-water partition coefficient >3.0; BCF >100
 Pentane: 96 hr LC50 Oncorhynchus mykiss (Rainbow trout) 4.26 mg/L; 48 hr EC50 Daphnia magna 2.7 mg/L
 Octane: 48 hr EC50 Daphnia magna 0.3 mg/L
 Ethanol: 96 hr LC50 Pimephales promelas 14.2 g/L; 48 hr EC50 Daphnia magna 5012 mg/L
 Propyl Alcohol: 96 hr LC50 Pimephales promelas (fathead minnow) 4555 mg/L; 48 hr EC50 Daphnia magna 1000 mg/L
 Methyl Acetate: 96 hr LC50 Danio rerio 250-350 mg/L; 48 hr EC50 Daphnia magna 1026.7 mg/L
 Ethyl Acetate: 96 hr LC50 Pimephales promelas (fathead minnows) 220 mg/L
 Propyl Acetate: 96 hr LC50 Pimephales promelas (fathead minnows) 66 mg/L; 48 hr EC50 Daphnia magna 91.5 mg/L
 Butyl Acetate: 96 hr LC50 Pimephales promelas (fathead minnows) 18 mg/L; 48 hr EC50 Daphnia magna 44 mg/L
 Methyl Isobutyl Ketone: 96 hr LC50 fish >100 mg/L; BCF <100
 Methyl Ethyl Ketone: 96 hr LC50 fish >100 mg/L
 Methanol: 96 hr LC50 Pimephales promelas (fathead minnows) 29,400 mg/L; 24 hr LC50 daphnia magna >10,000 mg/L
 Butyl alcohol: 96hr LC50 fish <100 mg/L; 48hr EC50 daphnia magna >100 mg/L; Log Octanol-water partition coefficient 3.0
 Butyl Cellosolve: 96 hr LC50 fish >100 mg/L
 Methyl formate: 96 hr LC50 Leuciscus idus 115 mg/L
 N-methyl pyrrolidone: 96 hr LC50 Oncorhynchus mykiss (Rainbow trout) >500 mg/L; 96 hr EC50 Daphnia magna 1107 mg/L

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Ethyl Methyl Carbonate: 96 hr LC50 Oncorhynchus mykiss (Rainbow trout) >100 mg/L; 48 hr EC50 Daphnia magna >100 mg/L

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal environmental regulations.

14. TRANSPORT INFORMATION

DOT Hazardous Materials Description:

Proper Shipping Name: Flammable Liquid, n.o.s. (Toluene, Hexanes)

Hazard Class/Packing Group: 3, PG II

UN Number: UN1993

Labels Required: Flammable Liquid

Note: If >1,050 pounds of this product in a single container, RQ requirements apply.

IMDG Shipping Name: Flammable Liquid, n.o.s. (Toluene, Hexanes)

IMDG Hazard Class: 3, PG II

UN Number: UN1993

IMDG Hazard Labels Required: Flammable Liquid

IATA Shipping Name: Flammable Liquid, n.o.s. (Toluene, Hexanes)

IATA Hazard Class: 3, PG II

UN Number: UN1993

IATA Hazard Labels Required: Flammable Liquid

15. REGULATORY INFORMATION

CERCLA: This product has a Reportable Quantity (RQ) of 166 lbs. based on the RQ for Xylene of 100 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health, Chronic Health, Fire Hazard.

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Xylene	95-47-6, 106-42-3	<60%
Toluene	108-88-3	<60%
n-Hexane	110-54-3	<40%
Trimethylbenzenes	Mixture	<25%
Ethylbenzene	100-41-4	<20%

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Methyl Isobutyl Ketone	108-10-1	1-10%
Methanol	67-56-1	1-5%
Butyl Alcohol	71-36-3	1-5%
N-Methyl Pyrrolidone	872-50-4	<5%
Methylene Chloride	75-09-2	0-1%
Perchloroethylene	127-18-4	0-1%
Trichloroethylene	79-01-6	0-1%

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

California Proposition 65: This product contains ingredients known to the state of California to cause cancer and/or reproductive harm.

16. OTHER INFORMATION

NFPA Rating: Health = 3 Flammability = 3

Instability = 0

HMIS Rating: Health = 3* Flammability = 3

Physical Hazard = 0

*Chronic Health Hazard

Revision Summary:

05/29/14: New SDS

08/14/15: Updated formulation

NOTICE

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Tradebe shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.